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| 10/540,786      | 09/21/2005  | Andreas Melzer       | 8324-2              | 2087             |

  

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| EXAMINER                 |  |
| BACHMAN, LINDSEY MICHELE |  |

  

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| ART UNIT | PAPER NUMBER |
| 3734     |              |

  

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 01/05/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/540,786

Applicant(s)

MELZER ET AL.

Examiner

Lindsey Bachman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 41-46 and 48-73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 41-46 and 48-73 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

This action is in response the amendment filed on 18 August 2006.

### ***Specification***

1. The amendment to the specification filed on 18 August 2006 has been accepted.

### ***Drawings***

2. The drawings were received on 18 August 2006. The drawings are objected to under 37 CFR 1.83(a) because they fail to show 300c as described in page 15 of the specification filed on 18 August 2006. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claim 41 is objected to because of the following informalities: "MR" in line 5 should be written out as "magnetic resonance" in the first instance. Appropriate correction is required. Also, "tomograph" in line 5 is incorrectly spelled.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. **Claims 41-46, 48-53, 66, and 68 are rejected under 35 U.S.C. 103(a) as being anticipated by Wallace, et al. (US Patent Number 6,156,061) in view of Melzer, et al. (US Patent 6,847,837).**

7. Claim 41: Wallace'061 teaches a vena cava filter implant (column 7, lines 13-21) containing a conductor loop (202) made of one piece (Figure 8) of a conductive material (column 6, lines 14-18) coated with an insulating material (column 3, lines 46-47). Since the filter is made of a conductive material, it is capable of forming an inductance. Wallace'061 does not teach a resonance circuit that corresponds to the frequency of an external magnetic field of an MR tomograph.

8. Melzer'837 teaches a vessel filter that has a resonance circuit that corresponds to the frequency of an external magnetic field (column 3, lines 50-60) because this allows clear, signal intensive imaging of the filter (column 3, lines 21-29) and it allows the surgeon to measure flow through the filter (column 4, lines 11-17). It would have been obvious to one skilled in the art at the time the invention was made to modify the device taught by Wallace'061 to have a resonance circuit that corresponds to the frequency of an external magnetic field as taught by Melzer'837 in order to clearly see the filter and also measure blood flow through the filter.

9. Claim 42: Melzer'837 teaches that a resonance circuit is adjustable to a resonance frequency because the product of the inductance and capacitance might change when the shape of the filter changes shape. It would have been obvious to one skilled in the art at the time the invention was made to modify the device taught by

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Wallace'061 with an adjustable resonance circuit taught by Melzer'837 in order to accommodate changes in the filter's shape.

10. Claim 43, 44, 45: Wallace'061 teaches individual sections are separated by a spacing, which can be seen in Figure 8, element 202. Since claim 44 further limits only in the case of an insulator, Claim 45 can be disregarded when spacers are used.

11. Claim 46: Wallace'061 teaches the capacitance is inherently adjustable by presence in a liquid.

12. Claim 48: Wallace'061 teaches a conductor material is in contact with a non-conducting material, as with any wire covered in insulation.

13. Claims 49 and 50: Wallace'061 teaches a filter implant that is deployable via electrolysis. The entire filter is covered with a non-conducting material, except for the electrolytically severable joint (204) which is released by applying a current (column 3, lines 52-55) while the material is in an ionic liquid, such as blood (column 5, lines 52-55) which means it is deployable while in the body.

14. Claims 51 to 53: Wallace'061 teaches a filter implant with a plurality of conductor loop windings (in Figure 8, there are multiple instances of conductor loop winding 202). It can be seen in Figure 8 that the conductor loop windings are have a maximum space between them along the axis collinear with base 206. Furthermore, there is a reduce spacing between the conductor loop windings (202) along the circumference of the filter in comparison to the spacing between the conductor loop windings (202) across the diameter of the filter.

15. Claim 68: Wallace'061 teaches the filter is led into the vessel by push wire (206).

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**16. Claims 41, 54-61, 63, 67, and 69-73 are rejected under 35 U.S.C. 103(a) as being anticipated by Walak, et al. (US Patent Number 6,540,767) in view of Melzer'837.**

17. Claim 41: Walak'767 teaches a thrombosis filtering device comprising a conductor loop made of spokes and ring (520). The ring is made of a shape memory alloy, such as a nickel-titanium alloy, which will change shape when it is heated (column 2, lines 23-30). One method of heating the ring (520) is applying an electric current (column 2, lines 30-40) to it. Walak'767 does not teach a resonance circuit that corresponds to the frequency of an external magnetic field of an MR tomograph.

18. Melzer'837 teaches a vessel filter that has a resonance circuit that corresponds to the frequency of an external magnetic field (column 3, lines 50-60) because this allows clear, signal intensive imaging of the filter (column 3, lines 21-29) and it allows the surgeon to measure flow through the filter (column 4, lines 11-17). It would have been obvious to one skilled in the art at the time the invention was made to modify the device taught by Walak'767 to have a resonance circuit that corresponds to the frequency of an external magnetic field as taught by Melzer'837 in order to clearly see the filter and also measure blood flow through the filter.

19. Claim 54 and 59: Walak'767 discloses a filter with a plurality of conductor loop windings (506, specifically Figures 6 and 7) that merge at 502 and extend to the other side of the filter (510).

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20. Claim 55 and 63: Walak'767 discloses a filter with extension (512) that is used to connect the filter to the vessel wall (column 8, lines 7-11) and a brace (502) that is used to fasten the legs (506) together at one end.

21. Claim 56: Walak'767 discloses in Figure 7, a limited spacing between the conductor loop windings (506) while in extension.

22. Claim 57: Waluk'767 discloses a ring (520) connects the conductor loop windings (506). The conductor loop windings (506) may be connected to the ring by many different methods including welding (column 7, lines 55-63).

23. Claim 58: Waluk'767 discloses a double filter with a filter cage on each end (150, 840 in Figure 17).

24. Claims 60 and 61: Waluk'767 discloses that the braces (512) are connected to the filter via a method such as welding (column 7, lines 55-63). If this is the case, current will flow to the braces and also into the body of the patient (column 10, lines 50-55). Furthermore, the brace is used for connecting the filter to the vessel wall (column 8, lines 5-11).

25. Claim 67: Waluk'767 discloses a conductor loop that could be made by cutting a tube repeatably lengthwise and then expanding it (Figures 15 and 16). (See column 11, lines 23-39.)

26. Claim 69: Waluk'767 teaches a thrombosis filtering device that is electrically conductible containing a plurality of conductor loop windings (506, specifically Figures 6 and 7) that merge at 502.



27. Claim 70: Waluk'767 teaches a hook (512) for attaching the vessel filter to the vessel wall.

28. Claim 71-73: Waluk'767 discloses coupling device (64) on the end of the filter for use with a retrieval member (116) (See column 5, lines 33-34.)

**29. Claims 41, 60 and 62 are rejected under 35 U.S.C. 103(a) by DeVries (US Patent Application Number 2001/0039431) and Melzer'837.**

30. Claim 41: DeVries'431 discloses a thrombus filter (20) comprising a conductor loop. DeVries'431 does not teach a resonance circuit that corresponds to the frequency of an external magnetic field of an MR tomograph.

31. Melzer'837 teaches a vessel filter that has a resonance circuit that corresponds to the frequency of an external magnetic field (column 3, lines 50-60) because this allows clear, signal intensive imaging of the filter (column 3, lines 21-29) and it allows the surgeon to measure flow through the filter (column 4, lines 11-17). It would have been obvious to one skilled in the art at the time the invention was made to modify the device taught by DeVries'431 to have a resonance circuit that corresponds to the frequency of an external magnetic field as taught by Melzer'837 in order to clearly see the filter and also measure blood flow through the filter.

32. Regarding Claim 60 and 62, DeVries'431 discloses that the filter contains conductor loop windings (24) movably connected to braces (34) for fastening the filter to vessel walls (See page 3, paragraph 34.) The connection is created by a sleeve (36) that is fixed to the free end of the winding (24) by a weld; the base of the brace (32) is releasably connected to the sleeve. (See page 3, paragraphs 33 and 34.)

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**33. Claim 64 is rejected under 35 U.S.C. 103(a) as being unpatentable over DeVries'431 and Melzer'837, as applied to Claim 60, in view of Thomas (US Patent Publication 2003/0208227).**

34. DeVries'431 and Melzer'837 the limitations of Claim 64 except for the use of a bioabsorbable material.

35. Regarding Claim 64, DeVries'431 discloses that the filter contains conductor loop windings (24) movably connected to braces (34) for fastening the filter to vessel walls (See page 3, paragraph 34.)

36. DeVries'431 does not teach the use of bioresorbable materials.

37. Thomas'227 teaches the use of bioresorbable materials in a brace (22) to ensure that a thrombus filter (10a, 10b) is attached to the wall of a vessel. Thomas'227 teaches the use of bioresorbable materials so that removal of the filter is easier because the entire filter is absorbed by the body (paragraph 6). It would have been obvious to one skilled in the art at the time of the invention to use bioresorbable materials for use in the braces to facilitate removal of the filter from the vessel.

**38. Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace'061 and Melzer'837, as applied to Claim 41, in further view of Barbut, et al. (US Patent Number 7,011,672).**

39. Wallace'061 and Melzer'837 teach the use of a metallic filter that can be used with a conductor loop. Wallace'061 and Melzer'837 do not teach the use of a semiconductor portion in the filter.

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40. Barbut'672 teaches the use of metallic filter with a silicon sleeve (976) with holes in it to allow lateral blood flow (column 28, lines 48-53). Silicon is a well-known semiconductor. It would have been obvious to one skilled in the art at the time of the invention to use silicon in a filter to allow lateral blood flow.

### ***Response to Arguments***

41. Applicant's arguments with respect to claims 41-73 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

42. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

43. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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44. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lindsey Bachman whose telephone number is 571-272-6208. The examiner can normally be reached on Monday to Thursday 7:30 am to 5 pm, and alternating Fridays.

45. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hayes can be reached on 571-272-4959. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

46. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "M J Hayes", with a stylized flourish at the end.

MICHAEL J. HAYES  
SUPERVISORY PATENT EXAMINER